## REMARKS

Claims 2-9, 11-16, 18-26, and 37-45 are now pending in the application. Claims 1, 10, 17, and 27-36 are cancelled. Claims 37-45 are new. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### REJECTION UNDER 35 U.S.C. § 102

Claims 1-3, 6, 8, 10-11, 15, and 17-26 were rejected under 35 U.S.C. § 102 as being anticipated by Kirkwood et al. (U.S. Pat. No. 6,808,052). This rejection is respectfully traversed.

With regard to claims 1, 10, and 17, the rejections are rendered moot by cancellation of claims 1, 10, and 17. With regard to claims 2-3, 6, 8, 11, 15, and 18-26, each either directly or indirectly depends from claims 1, 10, and 17. Thus, the rejections of claims 2-3, 6, 8, 11, 15, and 18-26 are likewise rendered moot by cancellation. The Kirkwood et al. reference, however, is discussed with regard to new claims 37-45 below.

New claim 37 recites a torque biasing system comprising a clutch pack, a motor that manipulates engagement of the clutch pack based on a control signal, and a control module that generates the control signal based on a torque command and a calculated torque. The calculated torque is based on a calculated interconnection position of the clutch pack. The calculated interconnection position is based on a model of the torque biasing system. Kirkwood et al. does not teach every element of the torque biasing system of claim 37.

In Kirkwood et al., a torque command signal is compared with a torque output signal. Kirkwood et al. (Col. 15, Lines 18-22). The torque output signal is either generated by a torque sensor or calculated by a torque estimator. Kirkwood et al. (Col. 15, Lines 57-67). If a torque estimator is used, the torque estimator estimates clutch output torque by operating mathematically on an electrical current sensor's signal to provide an estimate of the output torque. Kirkwood et al. (Col. 15, Lines 62-65). The estimate may be a simple linear relationship or a more complex function. (Col. 15, Lines 65-66). In other words, the torque estimate in Kirkwood et al. is based on a relationship with an electrical current signal from a motor.

In the torque biasing system of claim 37, however, a calculated torque is based on a calculated interconnection position of the clutch pack. The calculated interconnection position is based on a model of the torque biasing system. Kirkwood et al. is silent as to calculating an interconnection position of a clutch pack based on a model of the torque biasing system.

For these reasons, Kirkwood et al. does not teach every element of claim 37. Therefore, claim 37 defines over the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

With regard to claims 2-3, 6, and 8 Applicants note that each either directly or indirectly depends from claim 37, which defines over the prior art as discussed in detail above. Therefore, claims 2-3, 6, and 8 also define over the prior art and reconsideration and withdrawal of the rejections are respectfully requested.

With regard to claim 38, a method is recited including calculating an interconnection position of a clutch of a torque biasing system based on a model of the

torque biasing system. Similar limitations are recited by Claim 37. For at least the reasons discussed above, the Kirkwood et al. reference does not teach every element of Claim 38. Therefore, claim 38 defines over the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

With regard to claims 11 and 15, Applicants note that each either directly or indirectly depends from claim 38, which defines over the prior art as discussed in detail above. Therefore, claims 11 and 15 also define over the prior art and reconsideration and withdrawal of the rejections are respectfully requested.

With regard to claim 39, a method is recited including calculating a model-based torque based on a calculated interconnection position of a clutch of a torque biasing system. Similar limitations are recited by Claim 37. For at least the reasons discussed above, the Kirkwood et al. reference does not teach every element of Claim 39. Therefore, claim 39 defines over the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

With regard to claims 18-26, Applicants note that each either directly or indirectly depends from claim 39, which defines over the prior art as discussed in detail above. Therefore, claims 18-26 also define over the prior art and reconsideration and withdrawal of the rejections are respectfully requested.

With regard to claim 40, a controller for a torque biasing system including a clutch and a motor that manipulates engagement of the clutch via a clutch operator is recited. The controller includes a motor control module that generates a motor control signal, a motor module that generates a calculated clutch operator position signal based on the motor control signal, a clutch operator module that generates a calculated clutch

interconnection signal based on the calculated clutch operator position signal, and a clutch module that generates a calculated torque signal based on the calculated clutch interconnection signal. The motor control signal is based on the calculated torque signal.

For at least the reasons discussed in detail above, Kirkwood et al. does not teach every limitation of claim 40. Therefore, claim 40 defines over the prior art. With regard to claims 41-45, each depends from claim 40 which defines over the prior art as discussed above. Therefore, claims 41-45 each define over the prior art as well.

**REJECTION UNDER 35 U.S.C. § 103**

Claims 7 and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kirkwood et al. (U.S. Pat. No. 6,808,052) in view of Morishita et al. (U.S. Pat. No. 4,789,040). This rejection is respectfully traversed.

Claim 7 depends from claim 6, which defines over the Kirkwood et al. reference as discussed in detail above. Like Kirkwood et al., Morishita et al. also does not teach a control module that generates a control signal based on a torque command and a calculated torque, wherein the calculated torque is based on a calculated interconnection position of a clutch pack. Therefore, claim 7 defines over the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

Claim 14 depends from claim 38, which defines over the Kirkwood et al. reference as discussed in detail above. Like Kirkwood et al., Morishita et al. also does not teach calculating an interconnection position of a clutch of a torque biasing system based on a model of the torque biasing system. Therefore, claim 14 also defines over

the prior art and reconsideration and withdrawal of the rejection are respectfully requested.

**ALLOWABLE SUBJECT MATTER**

The Examiner states that claims 4, 5, 9, 12, 13 and 16 would be allowable if rewritten in independent form. Accordingly, Applicants have amended claims 4, 5, 9, 12, 13 and 16 to include the limitations of the base claim and any intervening claims. Therefore, claims 4, 5, 9, 12, 13 and 16 should now be in condition for allowance.

**CONCLUSION**

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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By: _____
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